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A cross sectional study on the Quality of life among Diabetes Mellitus patients attending a tertiary care centre

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ABSTRACT

BACKGROUND: Diabetes Mellitus is a chronic disease that has an important impact on the patients' physical, psychological and social dimension. Quality of life (QoL) in diabetes patients is an important measure for grasping the larger consequence of the disease, and to design the public health interventions.

OBJECTIVES: To determine the quality of life in the diabetic patient attending MTM clinic at GMCH, Omandurar.

METHODS : This study took place between March and May of 2025 and involved 100 patients who had been living with diabetes for at least two years. We chose the participants using a convenient sampling method. To gather data, we used a questionnaire that was carefully organized and administered by an interviewer, which we translated into Tamil from trustworthy sources. For the analysis of the data, we used SPSS software.

RESULTS: In our study,we found that middle aged patients were more satisfied with diabetes time management while being dissatisfied with diet flexibility.Younger individuals show higher dissatisfaction while old aged patients report a significant family burden.Females reported a more treatment related pain and males were generally dissatisfied.Lower QOL is linked to diabetic duration and non compliance to treatment .

KEYWORDS: Diabetes Mellitus, Quality of Life, WHOQOL, Tertiary Care,

I. INTRODUCTION

Diabetes mellitus is a metabolic disease resulting from insulin deficiency or insulin resistance and associated with hyperglycemia. Due to lifestyle changes, obesity and bad food habits, the rate of occurrence of diabetes is increasing. Chronic and uncontrolled diabetes can cause complications like cardiovascular disease, peripheral neuropathy, retinopathy, diabetic kidney damage,diabetic ketoacidosis which is a life threatening emergency condition, diabetic foot syndrome which is a significant contributor of disabilty due to amputation(14,15).

According to WHO, Quality of Life (QOL) is defined as "an individual's perception of their position in life in the context of the cultural & value systems in which they live and in relation to their goals, expectations, standards & concerns."

Physical complication, psychological disturbance, social disruption and economic loss reduce the quality of life in diabetic subjects. Good life style (management of diabetes), education (awareness of diabetes), psychosocial support (feelings) and better access to healthcare facilities lead to better QOL of diabetic patients. And maintaining healthy living, controlling existing complications, and addressing the emotional & social burden of the condition.The result of Quality of Life study on diabetes patients suggest that plans should be made for different schemes & programmes with special emphasis on co morbid disease and access below diabetes.Analysis of Quality of Life in diabetic patients indicates the necessity of making various schemes & programmes especially for coexisting disease and access under diabetes.strategies for improving quality of life (18,19).

The analysis of Quality of Life in diabetic patients indicates the necessity of making various schemes & programmes especially for coexisting disease and access under diabetes(17,19).

II. METHODOLOGY

A study will take place at the MTM Clinic, located at the Government Medical College and Hospital in Omandurar Government Estate, Chennai, from March to May 2025. The people taking part in this study will be diabetes patients who come to the MTM clinic. We will choose participants based on convenience. To qualify for

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the study, individuals need to have been diagnosed with diabetes for at least two years and must visit the clinic during the study timeframe.If patients choose not to give their consent, they won't be part of the study. We figured out that we need a sample size of 100, using a simple formula. To gather our data, we'll be using a straightforward questionnaire that an interviewer will administer, based on earlier research. This questionnaire, first created in English and then translated into Tamil, will help us learn about the quality of life for people with diabetes. We'll collect the answers digitally with a Google Form and check the results using SPSS. Any p-value under 0.05 will be seen as significant. We have received ethical approval for this study from the Institutional Ethics Committee.

III. RESULT

TABLE 1: shows Descriptive data of variables

VARIABLES	N= 101	%	MEAN	SD
AGE			52.58	11.22
< 25	1	1		
26 – 40	12	11.9		
40 – 60	70	69.3		
>60	18	17.8		
SEX MALE	51	50.5		
FEMALE	50	49.5		
OCCUPATION UNEMPLOYED	45	44.6		
UNSKILLED	16	15.8		
SEMISKILLED	9	8.9		
SKILLED	21	20.8		
SEMI PROFESSION	5	5		
PROFESSION	5	5		
HISTORY OF DM LESS THAN 5 YEARS	63	62.4	5.94	4.599
5 TO 10 YEARS	24	23.8		
10 TO 20 YEARS	12	11.9		
MORE THAN 2O YEARS	2	2		

VARIABLES	N	%
BLOOD GLUCOSE LEVEL NORMAL	52	51.5
ABNORMAL	49	48.5
BMI NORMAL	39	38.6
OBESE	27	26.7
OVERWEIGHT	24	23.8
UNDERWEIGHT	11	10.9
ARE THEY TAKNG THE DRUGS REGULARLY ? YES	80	79.2

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NO	21	20.8

TABLE.2 shows association of demographic variables with quality of life

VARIABLES		QOL	SATISFACTION				IMPACT				WORRY			
AGE			<25	25-40	41-60	>60	<25	25-40	41-60	>60	<25	25-40	41-60	>60
	F	1	0	1	7	3	0	8	22	7	0	9	32	11
		2	0	11	58	14	1	4	43	10	0	2	29	7
		3	1	0	3	1	0	0	5	1	1	1	9	0
	P		0.002				0.365				0.027			
SEX			MALE		FEMALE		MALE		FEMALE		MALE		FEMALE	
	F	1	5		8		20		17		30		22	
		2	43		40		28		30		14		24	
		3	3		2		3		3		7		4	
	P		0.609				0.860				0.097			
HISTORY OF DM			<5	5-10	10-20	>20	<5	5-10	10-20	>20	<5	5-10	10-20	>20
	F	1	9	1	1	2	22	9	4	2	32	11	7	2
		2	51	23	9	0	36	14	8	0	20	13	5	0
		3	3	0	2	0	5	1	0	0	11	0	0	0
	P		0.02				0.544				0.090			
OCCUPATION		1	13				37				52			
	F	2	83				58				38			
		3	5				6				11			
	P		0.875				0.267				0.306			
NORMAL BLOOD GLUCOSE LEVEL			YES		NO		YES		NO		YES		NO	
	F	1	8		5		24		13		31		21	
		2	43		40		25		33		16		22	
		3	1		41		3		3		5		6	
	P		0.285				0.117				0.233			
ARE THE TAKING DRUGS REGULARLY?			YES		NO		YES		NO		YES		NO	
	F	1	12		1		34		3		43		9	
		2	65		18		44		14		30		8	
		3	3		2		2		4		7		4	
	P		0.214				0.003				0.367			

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In the respective domains, Satisfaction subscale score is 15-75,Impact subscale score is 20-100,Worry subscale score is 11-55.QOL 1 indicates Low dissatisfaction (High satisfaction) : 15 - 34 ,Low impact : 20-46,Low worry :11-25 . 2 indicates Moderate dissatisfaction : 35-54,Moderate impact : 47-73,Moderate worry : 26-40. 3 indicates High dissatisfaction (Low satisfaction) : 55-75,High impact : 74-100,High worry : 41-55.

As per the inclusion criteria , 101 patients attending MTM clinic were taken into the study . Mean age of the patients was 52.58± 11.22. Majority of the patients were in 41 - 60 years of age (69.3%). Mean duration of diabetes is 5.94 ± 4.599The frequency of the other demographic variables are given above in the table 1.

The relationship between demographic variables (age & sex) and quality of life indicators were tested by using cross tabulations and chi square tests.

There is a significant association was found between age and satisfaction with time taken to manage diabetes (p- 0.016). The participants who were between 41 and 60 years showed highest level of satisfaction with time taken to manage diabetes. Participants aged 41 -60 yrs were most commonly dissatisfied with diet flexibility (p-0.016). There was a statistically significant relationship between age and perceived burden of diabetes on family with older age groups reporting more concern (p-0.005). The 41 -60 years aged group participants has significantly established satisfaction with diabetic knowledge (p-0.042).Younger participants who are aged less than 25 yrs diagnosed with diabetes show higher level of generalized dissatisfaction (p<0.001).The older age group 41 - 60 years showed significant association with the frequency of pain associated with the diabetes treatment (p-0.013).A significant association was observed between age and how often diabetes interferes with family life again more commonly in 41-60 years aged participants.

Gender distribution was significantly related to satisfaction with time management of diabetes.Male tend to more dissatisfied overall.Both the males and females showed a large proportion expressing neutral satisfaction in their sex life. Females reported high frequency of pain from diabetes treatment.

On analysis of Original DQOL questionnaire, the average of total QOL score is 121.63± 23.17. The association between QOL score under satisfaction, worry and domain with demographic variables tested through chi square test is given below in tABLE .2 .

There is a significant difference of QOL score in satisfaction between different age groups (p - 0.002). Person aged less than 25 years shows high disssatisfaction and person aged 41-60 years of age shows mostly moderate dissatisfaction.. Age does not affect the quality of life in impact . Worry differs meaningfully across different age groups. Quality of life does not differ between male and female in satisfaction, impact and worry. There is strong association between duartion of DM with satisfaction I.e, person with long duartion of diabetes shows more dissatisfaction (p-0.002). There is a association between compliance and impact, those who are compliant shows high satisfaction than those who are non compliant(p-0.003).

In independent t test, there is a significant association between age and impact with younger individuals(< 40) shows less impact (mean qol - 2.6625 , sd - 0.67) than older individuals (> 40) (mean qol -2.11859, sd - 0.54).

IV. DISCUSSION

In our study , we aimed to study the association between demographic variables (age & sex) and quality of life indicators among individuals with diabetes. The results in our study showed a significant association of age and several aspects of diabetes related experiences.Participants who are aged 41to 60 years have reported significantly higher satisfaction regarding diabetes knowledge and time taken to manage diabetes , but simultaneously express a dissatisfaction with diet flexibility and diabetes related burden on family .A notable finding was the strong association between longer duration of diabetes and dissatisfaction (p = 0.002).It was found that compliant individuals exhibit higher satisfaction compared to non compliant individuals. In similar studies, Al Hayek et al observed that individuals of 41 to 60 years reported better quality of life due to longer disease familiarity.These findings establish burden experienced by this age group 41 to 60 years balancing self care with family and professional responsibilities . Notably , the younger age groups less than 25 years exhibit a higher level of generalized dissatisfaction which may origin from challenges in lifestyle modifications and psychological acceptance of chronic condition.These findings align with the previous studies that younger diabetic patients commonly experience a greater emotional stress and lower

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quality of life due to impact of disease on social and academic life (Rubin &Peyrot ,1999) and Chaung et al noted better psychosocial adjustment in middle and old aged patients compared to younger aged individuals.Sex differences were also evident expressing male experience more dissatisfaction with time management of diabetes while females report increased treatment related pain it consistent with work of Wexler et al which observed sex disparities in diabetes treatment outcome and quality of life.

This discussion signifies the importance of integrating demographic considerations into diabetes management strategies . Interventions addressing age specific and gender specific challenges may enhance patients satisfaction and treatment adherence.Future studies with larger sample size ,diverse population and longitudinal study designs are recommended to validate the findings . The use of convenience sampling and a single-center setting may limit the generalizability of the findings. It's worth noting that when we collect data through people's own reports and through interviews, there's a risk of recall bias . Smaller sample size decreases the generalizability.

V. CONCLUSION :

Our study shows that age , duration of disease and treatment adherence significantly influence the quality of life in patients in patients with Diabetes mellitus . Middle aged participants show more tendency to balance diabetes care , lifestyle modifications , treatment adherence and difficulties faced by them . The younger patients show higher dissatisfaction rate possibly due to social stigma and emotional distress due to early diagnosis . Patients with history of long duration of diabetes established decreased satisfaction rate while having a better treatment compliance leads to better outcome. Focussed sessions on dietary flexibility , incorporating motivational interviewing sessions , providing access to devices like insulin pens to reduce pain and inconvenience , using mobile apps to track medication , meals and activity to improve the compliance , Telemedicine follow ups for Diabetes mellitus in rural area can be done to improve their quality of life.

Quality of life monitoring can be done by training staff and implementing QoL dashboards in clinic records to tract patient well being .

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